DOCUMENT RESUME

ED 265 817 HE 019 072

AUTHOR Powers, Stephen; And Others
TITLE Attributional Profiles of Japanese-American and Anglo-American University Students.
PUB DATE [84]
NOTE 19p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Achievement Need; Algebra; *College Students; Comparative Analysis; Failure; Higher Education; *Japanese Americans; *Mathematics Anxiety; *Self Esteem; Success; *White Students
IDENTIFIERS University of Hawaii

ABSTRACT

The attribution patterns of 132 Japanese-American and 63 Anglo-American students at the University of Hawaii were studied in 1984. Students were administered the Mathematics Attribution Scale as well as measures of achievement motivation, anxiety, and self-esteem. Japanese-American students were found to have lower achievement motivation and higher anxiety than the Anglo-American students. Attributions for success in algebra were significantly correlated with achievement motivation for both cultural groups. For both groups, those who attributed their success to their effort tended to be higher in achievement motivation and self-esteem. Those who attributed their success to the ease of the task tended to be lower in self-esteem. In addition, for both groups, those who attributed their failure to a poor educational environment tend to be lower in achievement motivation and self-esteem. It appears that Japanese-Americans who have higher achievement motivation also tend to attribute their success to their ability, while no such correlation was found for Anglo-Americans. Compared to Anglo-Americans, Japanese-Americans more often attributed their success in Algebra to educational environment and ease of the task, and they more often attributed failure to lack of ability and poor educational environment. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED265817

ATTRIBUTIONAL PROFILES OF JAPANESE-AMERICAN AND ANGLO-AMERICAN UNIVERSITY STUDENTS

Stephen Powers,
Tucson Unified School District, Arizona

Melisa Choroszy
University of Hawaii

Peggy Douglas
University of Arizona, Tucson

HE 019 072

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Stephen Powers

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Abstract

This study examined the attribution patterns of two different cultural groups. A total of 132 Japanese-American and 63 Anglo-American university students were administered the Mathematics Attribution Scale, and achievement motivation, anxiety, and self-esteem measures. Differences were found between the attributions of the two groups. As predicted, attributions for success in algebra and achievement motivation appeared for both Japanese- and Anglo-American students.

INTRODUCTION

The importance of attributions in the determination of human motivation has previously been delineated (Weiner, 1980; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971). These authors have provided major contributions to attribution theory. Their discussions of the relationships between attributions and achievement motivation, expectancy of success and confidence have laid the foundation for recent investigations into these areas. One of the major reasons for the interest of educational researchers in attribution theory is the supposed effects of causal ascriptions on the strivings of students. Attribution theory suggests that attributions of success to one's effort tend to increase achievement motivation since effort is perceived as internal and under volitional control. If this is so, attributions of success to one's effort should be correlated with achievement motivation. Since ability is often perceived as internal and not under volitional control, it would not be expected to be related to achievement directly. External factors such as luck, the environment, and the context of the event would not be expected to influence attributions

as external factors are usually considered uncontrollable.

Weiner (1980) proposed a three-dimensional taxonomy of attributional patterns: locus (internal/external), stability (stable/unstable), and controllability (controllable/uncontrollable). Many of the behavioral consequences of these attribtuions were described by Weiner (1980). Following Weiner's theoretical framework, Powers, Douglas, Cool, and Gose (1985) found that the attribution for success in algebra to one's effort was, indeed, correlated .42 with achievement motivation among 110 high ability high school students. They also reported a negative correlation of -.22 for the relationship of the attribution of failure in algebra to the lact of effort with achievement motivation. Because these authors were using a select group of highly motivated students, it was questioned if the correlations they found would actually be greater in a sample with greater variability in the range of achievement motivation. It was noteworthy that Powers et al. did not find significant correlations between other areas of attributions (to ability, to the task, to the environment) with achievement motivation.

The purpose of this study was to examine the dif-

ferences of the attributions of Japanese-American and Anglo-American university students, and to examine the relationships of attributions with achievement motivation, anxiety, and self-esteem. It was expected that attributions for school success and failure with achievement motivation would be correlated as was found by Powers et al. (1985). Indeed, this would be expected using the framework of attribution theory. Since achievement motivation is often found to be related to self-esteem, it was expected that attributions would also be correlated with self-esteem.

METHOD

Subjects

The subjects were 132 Japanese-American (30 men, 102 women) and 63 Anglo-American (15 men, 48 women) students enrolled in the University of Hawaii in 1984. The mean age of the students was 24.8 years (*SD* = 6.5) with a range from 16 to 50.

Instruments

The Mathematics Attribution Scale: Algebra (MAS) (Fennema, Wolleat, & Pedro, 1979) was designed to assess high school students' attributions of school achievement in algebra to their effort, their ability, the task and the environment. The 32-item scale consists of four 4-item subscales which assess the attributions of success in algebra to ability, effort, the ease of the task, and a conducive environment. The other four 4-item subscales assess the attributions of failure in algebra to lack of ability, lack of effort, the difficulty of the task, and a poor environment. When attributing success to the task, the task would be defined as the easy content of the class, or the easy mathematics problems. When attributions of failure were to the task, the task would be an uninteresting task, the difficult

material, or the difficult word problems. In addition to the task subscales, the environment subscales should be described. The environment scales referred to environment which included "forces beyond the control of the individual, yet not related to the task" (Fennema et al. p. 4). The Attribution of success to the environment would include such items as the teacher taught well, or the teacher made the class interesting, or that one's group of students was helpful. The attributions for lack of success to the environment included such items as the teacher did not teach properly, or one's group of students did not pay attention.

Each statement on the scale was rated from 1 (Strongly Disagree) to 5 (Strongly Agree). The reliabilities of the subscales were reported by Powers, Douglas, and Choroszy (1984) to be (1) the attributions of success to ability .84, to effort .80, to the task .30, and to the environment .50, and (2) the attribution of failure to ability .73, to effort .66, to the task .54, and to the environment .48.

The Achievement Motivation Scale was adapted from Myers' (1965) Achievement Motivation Scale. It was designed to assess the degree to which an individual

was trying to succeed in school. This six-item scale concerned striving for, disposition toward, or interest in class assignments or grades. The 5-point response format ranged from 1 (Strongly Disagree) to 5 Strongly Agree). The Rosenberg (1965) Self-Esteem Scale is a well-known 10-item self-esteem scale designed to measure the self-acceptance aspect of self-esteem. The scale was slightly modified for this study by using a 5-point scale from 1 (Strongly Disagree) to 5 (Strongly Agree). Silbert and Tippett (1965) reported validity coefficients for the scale ranging from .56 to .86 with several similar measures. The Anxiety Scale was adapted from Taylor's (1953) Manifest Anxiety Scale. This 6-item scale concerns one's worry, lack of happiness, or lack of confidence about general topics such as other individuals, and trouble. Ratings on each item were on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). Powers, Douglas, Cool, and Gose (1985) reported the reliabilities of the Achievement Motivation Scales to be .61, of the Self-Esteem Scale to be .85, and of the Anxiety Scale to be .84.

Procedure

The scales were administered in 1984 to small

groups of incoming students in education at the University of Hawaii. Participants were not informed about the purpose of the study, and they were promised anonymity.

RESULTS AND DISCUSSION

Attributions for success in algebra were found to be significantly correlated with achievement motivation for Japanese-American (r = .33) and for Anglo-American (r = .31) students. Attributions for success to one's effort were also positively correlated with self-esteem for Japanese-Americans and for Anglo-Americans (rs = .27 and .40 respectively). Significant negative correlations were found for the attributions of success to the ease of the educational task with self-esteem of Japanese-American (r = -.20) and of Anglo-Americans(r = -.31). It appeared that in both groups, those who attributed their success to their effort tended to be higher in achievement motivation and self-esteem. Further, the negative correlation suggests that those who attribute their success to the ease of the task tended to be lower in self-esteem in both groups. Refer to Table 1.

Insert Table 1 about here

The attribution of failure in algebra to a poor educational environment was negatively correlated with achievement motivation for Japanese-American and

Anglo-American students (rs = -.28 and -.35 respectively) and to self-esteem (rs = -.28 and -.35 respectively). These findings, consistent in both groups, indicate that those who attribute their failure to a poor educational environment tend to be lower in achievement motivation and self-esteem. The greatest difference between correlations obtained from the Japanese-American and Anglo-American samples, occurred where the attribution for success in algebra to one's ability was significantly correlated for Japanese-Americans (r = .20, $p < .05$) and not correlated for Anglo-Americans (r = -.18), z = 2.47, $p < .014$. It appears that Japanese-American students who have higher achievement motivation also tend to attribute their success to their ability whereas, no such positive correlation appears for the Anglo-American students. In fact, the Anglo-American correlation suggests the possibility of an underlying negative correlation in the population.

The intercorrelation of achievement motivation, anxiety, and self-esteem within groups yield some interesting results. For Japanese-American and Anglo-American students, achievement motivation was not correlated with anxiety (rs = .02 and -.19); but achievement motivation was correlated with self-esteem (r = .25,

$p < .01$) for the Japanese-American students. The correlation between the same two measures for the Anglo-American students ($r = .19$) was not significant. Self-esteem had a substantial correlation of -.50 ($p < .001$) with anxiety for Japanese-American students, and another substantial correlation of -.64 ($p < .001$) with anxiety for Anglo-American students. These substantive negative correlations appearing in both groups strongly supported the contention that students with higher self-esteem tend to have less anxiety and vice versa.

The attributions of success and failure in algebra for Japanese-American and Anglo-American university was compared. As Table 2 shows, Japanese-American students attributed their success in algebra more to educational environment than did the Anglo-American students $t(193) = 2.39$, $p < .018$. They also attributed their success to the ease of the task more than did the Anglo-American students $t(193) = 3.93$, $p < .001$. Both environment and task are external causes. It should be noted that both groups did not differ in their attributions to internal causes such as ability and effort.

Insert Table 2 about here

The attributions of Japanese-American students and Anglo-American students of their failure in algebra differed with respect to lack of ability and poor educational environment. Japanese-American students indicated more of an ascription of causes of failure to lack of ability than did the Anglo-American students $t(193) = 2.48$, $p < .05$. Japanese-American students also attributed their failure in algebra more to poor educational environment than did Anglo-American students $t(193) = 3.81$, $p < .001$. These differences in attributional patterns could be categorized as relating to uncontrollable factors (ability and environment).

Japanese-American and Anglo-American students appeared to differ in their achievement motivation, anxiety, and self-esteem.Anglo-American students reported higher achievement motivation, $t(193) = 3.46$, and higher self-esteem, $t(193) = 4.01$, than the Japanese-American students. On the other hand, Japanese-American students reported a greater anxiety than did the Anglo-American

students $t(193) = 4.81$, $p < .001$.

These findings should be useful to university counselors, administrators and researchers. When failure is attributed to lack of ability, and it is found to be inappropriate, counseling can be designed to redirect that and other inappropriate attributions. If success is attribued to external causes, those ascriptions can be redirected to more internal causes. Japanese-American students were found to have lower achievement motivation and higher anxiety than the Anglo-American students. These differences could be further investigated to determine if, in fact, these differences appear to affect the groups adversely. Generally, this study has found, that different cultural group differ in their attributions and in the correlates of attributions. These findings raise questions about the cross-cultural invariance of attributions for school success and failure.

REFERENCES

Fennema, E., Wolleat, P., and Pedro, J. D. (1979). Mathematics Attribution Scale: An instrument designed to measure students' attributions of the causes of their successes and failures in mathematics. Journal Abstract Service of the American Psychological Association: Catalog of Selected Documents in Psychology, 9, (2), No. 26.

Myers, A. (1965). Risk taking and academic success and their relation to an objective measure of achievement motivation. Educational and Psychological Measurement, 25, 355-363.

Powers, S., Douglas, P., and Choroszy, M. (1984). A reliability and validity investigation of the Mathematics Attribution Scale. Educational and Psychological Measurement, 44, 733-737.

Powers, S., Douglas, P., Cool, B. A., and Gose, K. F. (1985). Achievement motivation and attributions for success and failure. Psychological Reports, 57, 751-754.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Silbert, E., and Tippett, J. (1965). Self-esteem: Clinical assessment and measurement validation. Psychological Reports, 16, 1017-1071.

Taylor, J. (1953). A personality scale of manifest anxiety. Journal of Abnormal and Social Psychology, 48, 285-290.

Weiner, B. (1980). Human motivation. New York: Holt, Rinehart & Winston.

Weiner, B., Frieze, I. H., Kukla, A., Reed, L., Rest, S. and Rosenbaum, R. M. (1971). Perceiving the causes of success and failure. Morristown, NJ: General Learning Press.

Table 1

Correlations of Attribution with Achievement Motivation, Anxiety, and Self-Esteem

Scale	AchMot		Anxiety		Self-Esteem	
	J	A	J	A	J	A
Success						
Ability	.20*	.18	-.02	.12	.02	-.06
Effort	.33***	.31*	-.06	-.16	.27**	.40***
Environment	.04	.19	.06	.09	-.08	.09
Task	.06	-.09	.15	.18	-.20*	-.31*
Failure						
Ability	.02	-.02	.28***	.10	-.21*	-.13
Effort	-.23**	-.16	-.01	-.13	-.07	.18
Environment	-.20*	-.34**	.27**	.14	-.28***	-.35**
Task	-.01	-.26*	.29***	.06	-.22**	-.14

Note. J = Japanese-American students, A = Anglo-American students.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 2

Mean Attributions, Achievement Motivation, Anxiety, and Self-Esteem of Japanese-American and Ango-American University Students

Scale	Japanese		Anglo			
	M	SD	M	SD	t	p
Success						
Ability	12.48	2.76	12.52	3.07	.09	.930
Effort	16.35	1.95	16.91	2.05	1.86	.064
Environment	16.19	1.76	15.58	1.46	2.39*	.018
Task	13.78	2.16	12.46	2.33	3.93**	.001
Failure						
Ability	12.64	2.53	11.66	2.77	2.48*	.014
Effort	13.77	3.20	13.49	3.85	.54	.590
Environment	10.67	2.44	9.29	2.21	3.81***	.001
Task	13.70	2.21	13.38	2.34	.92	.361
	20.79	2.73	22.25	2.86	3.46***	.001
	17.19	3.71	14.41	3.93	4.81***	.001
	40.17	4.67	43.14	5.21	4.01***	.001

*$p < .05$. **$p < .01$. ***$p < .001$.